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# PATENT ABSTRACTS OF JAPAN

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(54) SOLID-STATE LASER DEVICE FOR LASER  
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(57) Abstract:

**PURPOSE:** To realize a laser beam with a rectangular cross section and uniform energy distribution by a method wherein a laser rod is shaped into a rectangle and its ends of incidence and emission are polished respectively into a concave and convex.

**CONSTITUTION:** A laser beam  $I_1$  goes into the plane of incidence 31 of a YAG laser rod 21 positioned in a laser amplifier 2. With the plane of incidence 31 being shaped concave, the incident beam is concentrated uniform in the YAG laser rod 21. The circular cross section of the laser beam  $I_1$  is formed into a laser beam  $I_2$  figured rectangular because the YAG laser rod 21 has a rectangular cross section. With the plane of emission 32 of the YAG laser rod 21 being shaped convex, distribution is uniform of the energy in the laser beam  $I_2$  with its cross section rectangular.

